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GB 922866
GB 857263
GB 762374
GB 726853
GB 432332
GB 409524

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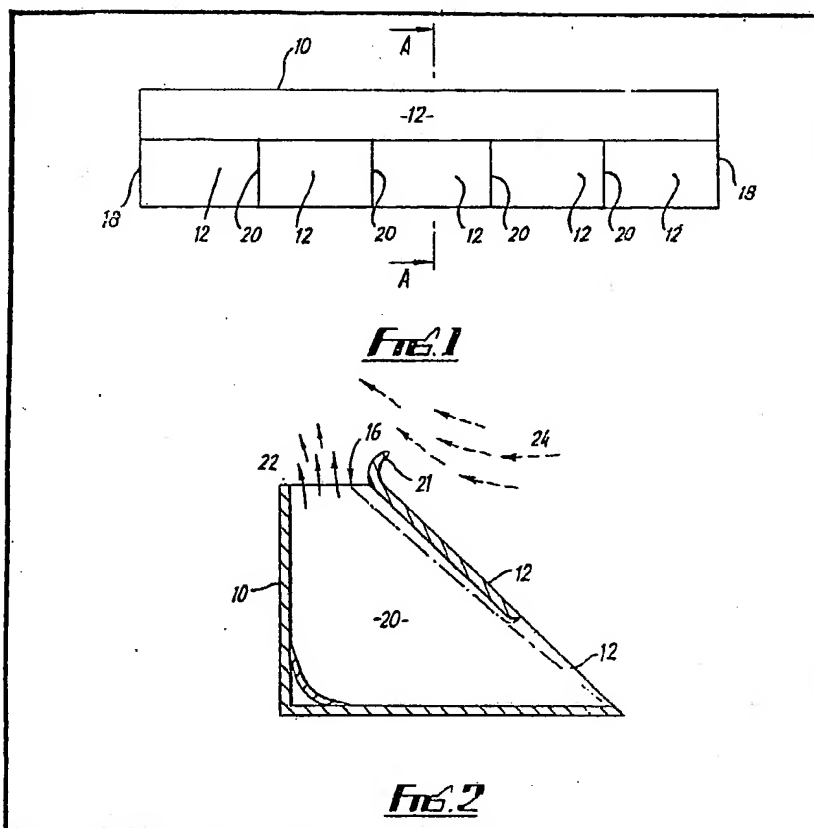
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(54) Wind Deflector for Road Vehicles

(57) A wind deflector which comprises a housing 10 of substantially triangular section adapted to be mounted on the front of a vehicle with the front face 14 inclined upwardly and rearwardly. An inlet 12 is

provided along the lower edge of the front face and an outlet 16 at the top of the housing. The inlet is larger than the outlet so that the velocity of air passing through the housing is increased when the vehicle is in motion and said increased velocity air stream is directed generally upwardly from the vehicle.



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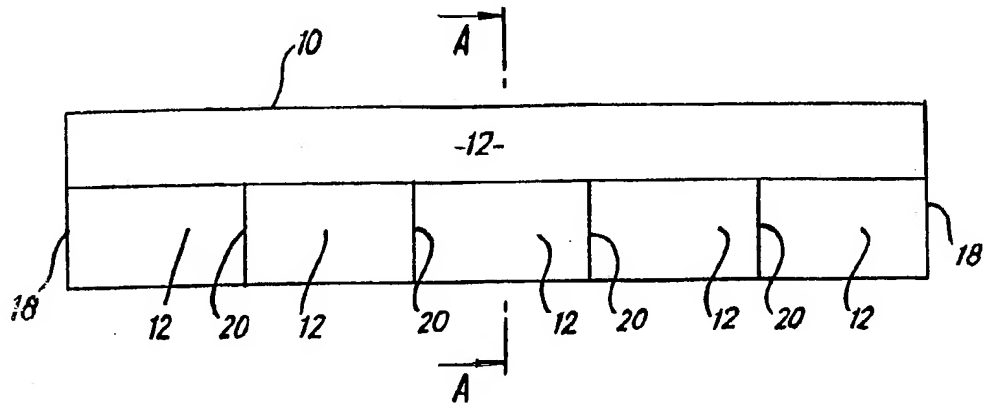


FIG. 1

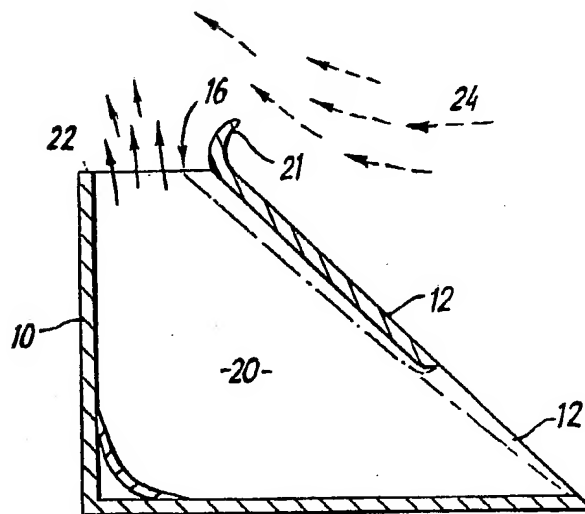


FIG. 2

SPECIFICATION Wind Deflector For Road Vehicles

This invention relates to a wind deflector for vehicles.

- 5 Large vehicles such as furniture vans which have a flat front above the drivers cab experience considerable wind resistance when driven at the high speeds at which commercial vehicles may now operate. To deal with that problem various kinds of wind deflector have been proposed. Such proposals generally comprise a shaped baffle mounted on the cab and usually spaced from the front of the vehicle body itself. From observations of the wind patterns over and around such baffles it has become apparent that the air streams over such a baffle after leaving the baffle move inwardly towards each other and hence strike the front of the vehicle body behind the baffle. In other words the baffles of this type do not have such a significant effect as might be supposed in reducing the effort needed to overcome wind resistance.

- According to the present invention there is provided a wind deflector for a vehicle comprising an inlet for admitting at least a part of the air stream received at the front of the vehicle when in motion, means for increasing the velocity of the air stream as it passes through the deflector and outlet for directing the resultant increased velocity air stream outwardly of the vehicle.

- The deflector of the invention has the effect of diverting the air stream that would normally strike the front of the vehicle body around the sides and over the top of the vehicle. By increasing the velocity of the air stream using the deflector the natural tendency of that air stream to recombine and strike the vehicle front is largely overcome.

- The deflector preferably comprises a housing adapted to be fixed to the front of a vehicle, for example, on the roof of the driver's cab. The housing has an inlet which in use is directed forwardly of the vehicle to receive at least part of the air stream striking the vehicle front. An outlet for the received air stream is provided at the top of the housing. To increase the velocity of the air stream as it passes through the housing the passage for said stream is restricted for example by having the inlet of larger size than the outlet.

- A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which:—

- Fig. 1 is a front elevational view of a wind deflector for a vehicle; and

- Fig. 2 is a section on the line A—A of Fig. 1 on an enlarged scale.

- Referring to the drawings the wind deflector comprises a housing 10 having a cross section which is almost that of a right angled triangle. An inlet 12 is provided along the bottom of the front, inclined face 14 of the deflector housing and an outlet 16 is provided at the top of the housing.

The outlet is of smaller cross-section than the inlet. The front face 14 is supported by end walls 18 and intermediate supports 20. An arcuate forwardly directed strip 21 extends along the top of the inclined face 14.

- In use, the deflector is mounted on a vehicle, generally on the roof of the drivers cab with the face 12 directed to the front of the vehicle. As the vehicle moves forward air enters the inlet 12 and passes from the outlet 16. However, because the outlet 16 is smaller than inlet 12 the velocity of the air exiting from the outlet exceeds that of the air entering the inlet. The outlet stream forms a generally upwardly directed stream of air (indicated by arrows 22), which diverts air not flowing through the deflector housing (indicated by dotted arrows 24) around and above the vehicle body rearwardly of the deflector. To prevent the air flow 22 being interrupted by any air flow across the top of outlet 16 the strip 21 is provided which deflects air stream 24 upwardly before it engages air stream 22.

- The invention is not restricted to the above described specific embodiment and many modifications can be made. Thus, for example, provided the velocity of the air stream through the housing is increased, the housing may have any suitable configuration; it does not have to be of triangular cross-section.

Claims

1. A wind deflector for a vehicle comprising an inlet for admitting at least part of the air stream received at the front of the vehicle when the vehicle is moving forwards, means for increasing the velocity of the air stream as it passes through the deflector and an outlet for directing the resultant air stream of increased velocity outwardly of the vehicle.

2. A wind deflector as claimed in claim 1 wherein said deflector comprises a housing having an inlet and outlet, said housing being adapted to be mounted on a vehicle with the inlet directed forwardly of the vehicle.

3. A wind deflector as claimed in claim 2, wherein the outlet is located in the housing such that when the housing is mounted on the vehicle the outlet directs the said resultant increased velocity air stream upwardly of the vehicle.

4. A wind deflector as claimed in claim 2 or claim 3, wherein the housing has a front surface which when mounted on the vehicle is inclined rearwardly and upwardly.

5. A wind deflector as claimed in claim 4, wherein the inlet is provided at or adjacent the bottom of said front surface.

6. A wind deflector as claimed in any of claims 2 to 5 wherein the housing is triangular in cross-section.

7. A wind deflector as claimed in any of claims 2 to 6 wherein means are provided on the housing forwardly of the outlet for reducing the interference between air flowing around the

housing and air flowing from the outlet.

8. A wind deflector as claimed in any preceding claim wherein the inlet is larger than the outlet.

5 9. A wind deflector substantially as described herein with reference to the accompanying drawings.

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